EXPRESS MAIL CERTIFICATE OF MAILING

express Mail Certificate No. <u>EV269145005US</u>

I hereby certify that the attached correspondence comprising:

1. DECLARATION UNDER 37 CFR §1.131 Declaration by Lawrence W. Hrubesh, John F. Poco, and Paul R. Coronado to Overcome Cited Reference (3 pages) w/attachment (6 pages), 2. Return Postcard is being deposited with the United States Postal Service as "Express Mail Post Office to Addressee" addressed to:

Mail Stop Non-Fee Amendment Commissioner for Patents P.O. Box 1450

on November 4, 2003

Alexandria, VA 22313-1450
Kally E. Kaymone

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant	:	Lawrence W. Hrubesh, et al.	Docket No.	:	IL-10624
Serial No.	:	10/002,513	Art Unit	:	1771
Filed	:	10/25/2001	Examiner	:	Erma C. Cameron
For	:	FIBERS AND FABRICS WITH IN AND FLAME-RESISTANT PRO		W	ATER-PROOFING,

DECLARATION UNDER 37 CFR §1.131 Declaration by Lawrence W. Hrubesh, John F. Poco, and Paul R. Coronado to Overcome Cited Reference

Commissioner of Patents and Trademarks Alexandria, VA 22313-1450

Dear Sir:

We; hereby declare that:

(1). We,

Lawrence W. Hrubesh, 19 Grey Eagle Court, Pleasanton, CA 94566;

John F. Poco, 1841 Creek Road, Livermore, CA 94550; and

Paul R. Coronado, 1354 Balboa Way, Livermore, CA 94550;

are citizens of the United States and residents of the Cities and the State identified;

- (2). We are the inventors named in the subject application;
- (3). In the Office Action mailed August 22, 2003, claims 10-18 in the subject application were rejected over the Soane et al Reference, International Patent Application No. WO 01/06054 by Avant-Garb, LLC. Claims 1-9 in the subject application are non-elected claims that were the subject of a restriction requirement. The Soane et al Reference, International Patent Application No. WO 01/06054, was published January 25, 2001, from an application filed July 19, 2000. The filing date of the application from which the Soane et al Reference matured is July 19, 2000;
- (4). We made the invention described and claimed in the subject patent application (The Invention) in this country prior to July 19, 2000, having made written descriptions, having made tests, and having disclosed the invention to others; all of the foregoing having been done in this country prior to July 19, 2000;
- (5). We continuously worked on testing, developing, and patenting The Invention during the period from the time when We made the first written description of The Invention and disclosed The Invention to others until October 25, 2001 when the subject application was filed (hereinafter "The Time Period");
- (6). We conceived and reduced The Invention to practice in this country prior to July 19, 2000;
- (7). Attached as ATTACHMENT A is photostatic copy of a "RECORD OF INVENTION" which in the Conception of the Invention Section XI, contains an entry for the "Conception Date" and an entry for "First Written Description," in the Reduction to Practice of the Invention Section XII, contains an entry for the "Date of Operation and Testing," and in Section XIV contains blanks wherein

signatures and dates of signatures appear; the dates on the photostatic copy of ATTACHMENT A have been blacked out, however, dates showing that We made The Invention prior to July 19, 2000 are dates prior to July 19, 2000; that We conceived The Invention in this country are dates prior to July 19, 2000; that We reduced The Invention to practice in this country are dates prior to July 19, 2000, and dates showing that The Invention was continuously worked on during The Time Period are dates during The Time Period;

- (8). We do not know and do not believe that the invention has been in public use or on sale in this country, or patented or described in a printed publication in this or any foreign country for more than one year prior to our application, and we have never abandoned our invention;
- (9). We further declare that all statements made herein of our own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

(Signature) 10-15, 2003

Declarant: Lawrence W. Hrubesh

(Signature) 10-13, 2003 Declarant: John F. Poco

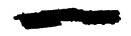
(Signature) 10/13____ 2003

Declarant: Paul R. Coronado



RECEIVED





LLNL PATENT GROUP

LLNL File No. IL-1062

This invention was made in the course of or under prime Contract No. W-7405-ENG-48 between the U.S. Department of Energy and the University of California. This Record of Invention is prepared for the Office of the Assistant General Counsel for Patents, U.S. Department of Energy.

I. Title of the invention

A method for insulating, water-proofing, and flame-proofing fibers and fabrics.

II. Inventor informati	on Title/Position Physicist	Directorate	Payroll Acct 9808	Phone # 3-1691	Mali Stop L-092
Lawrence W. Hrubesh John F. Poco Paul R. Coronado	Chemist Chemist	CMS CMS	9808 9808	3-9976 2-0155	L-092 L-092

Any fibers and woven fabrics can be made water repellent, fire-retardent and thermally III. Abstract insulating by filling the void spaces in the fibers or fabrics with a hydrophobic, nanoporous powdered material. When the powder is sufficiently finely divided, it clings tenaciously to the fabric's fibers and to itself, resisting the tendency to be removed from the fabric. Thus, this treatment offers substantial long term improvement of the water repellant and thermal insulation properties over the untreated fabric, while not adding much additional weight to it.

IV. Uses of the Invention

List past uses, current uses and potential uses for your invention LLNL or Government uses or possibilities for use:

Military clothing, blankets, tents, raingear, fire/flame protection

Commercial or other uses or possibilities for use:

clothing, blankets, tents, raingear, fire/flame protection



Page 2

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graphs. o/Subject	Date	Publication #

VII. Background

Background of the Invention, including technical problems addressed by it:

Fabrics are made water repellant by using fibers that are made of materials that will not be easily wet by water, or the fibers are coated with a water repellant material. The thermal insulating property of fabrics derives from the smallness of the fibers and the high ratio of void volume to solids within and between the fibers. To improve the water repellant property of a fabric, either better hydrophobic fibers or coatings are required, or the exposed surfaces of the un-treated fibers must be reduced. To improve the thermal insulating properties of a fabric, either smaller fibers are needed, or the void spaces within and between the fibers need to be made smaller. The best insulation would be achieved if the average fiber size and the average void size could be reduced below 0.1 micrometer.



Pag 3

LLNL File No.

VIII. Invention Description

Description of the invention (you may also attach a paper). Please include a sketch of the invention, if possible.

It is possible to fill the available void spaces in fibers and fabrics with a nanoporous material (powdered) whose particles and pores are so small that the thermal resistance of the powder is higher than that of the air that the powder is displacing. The powdered nanoporous material can be a hydrophobic material that is not easily wet with water. Thus the composite of fabric and powder has improved insulation and water-proofing properties.

The nanoporous powder can be any porous material that exhibits a microstructure consisting of sub-micrometer pores and particles; preferably, sol-gel derived, aerogel-like materials. The powders should have a composition such that the bulk material is not easily wet by pure water; preferably, the bulk material would make a contact angle greater than 90° with a water droplet on its surface.

The powder can be applied to the fibers or to the woven fabric at any time; preferably, by pressing the dry powder into the fibers or fabric in a manner that results in effectively filling the available void spaces.

The composite fabric consisting of the fibers and nanoporous powder gives the fabric the properties of lightweight, water-proof, thermal insulating, and fire retarding.

For example, a linen fabric treated with 19% by weight of hydrophobic silica aerogel, completely shed water and its thermal resistance improved by 31% over the same thickness of un-treated fabric. The same treated fabric withstands a flame temperature of 525°F before scorching, 7 times longer than the untreated fabric.



Page 4

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IX. Inventor								
Inventor's Permane	ent Home Addre	ss (Please	attach a sepai	ate sheet for addition	onal inventors.)	A4. A.	50 A - 1	
	/ Usubaah	Citizer		Address		City, State,		
Lawrence W				Grey Eagle C			iton 945	666
John F. Poc	хох	US	184	1 Creek Roa	ld	Livermo	re, CA	94550
Paul R. Cor	onado	US	135	4 Balboa Wa	y	Livermo	re, CA	94550
X. Funding Funding Source or special project info	Project Under W mation.):	/hich the Ir	nvention Arose	(Include subcontra	cts, CRADAs, interr	national agre	ements, work	for others, or
Tech Base	3938-18							-
Resource Manager		Phone #	ls funding	presently being pr	ovided for developn	nent of your i	nvention?	Yes No
Craig Schoe		42585						X
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XI. Concept								
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Page 5 LLNL File No.

KIII. Invention Use and	Disclosu	ıre		
Has the Invention been put into use?		lf yes, explair	1:	
las the invention been disclosed to n	on-LLNL pers	onnel?	Yes No If yes, to whom and	when? Provide name(s) and date(s):
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yes, was the disclosure done under	a non-disclos	ure agreeme	nt? Yes No	
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IV. I/We believe myself/pyr	/ selves to be	e the first a	nd original inventor(s) of the a	bove-described invention
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Send the completed and signed form to the Patent Group at L-703



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XIII. Invention Us												
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Send the completed and signed form to the Patent Group at L-703

EXPRESS MAIL CERTIFICATE OF MAILING
ess Mail Certificate No. <u>EV269145005US</u>

I hereby certificate of

November 4,2003

I hereby certify that the attached correspondence comprising:

1. DECLARATION UNDER 37 CFR §1.131 Declaration by Eddie E. Scott of Prior Invention by Lawrence W. Hrubesh, John F. Poco, and Paul R. Coronado to Overcome Cited Reference (5 pages) w/attachment (28 pages), 2. Return Postcard is being deposited with the United States Postal Service as "Express Mail Post Office to Addressee" addressed to: Mail Stop Non-Fee Amendment

Commissioner for Patents

P.O. Box 1450

Alexandria, VA 22313-1450

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant	: ,	Lawrence W. Hrubesh, et al.	Docket No.	:	IL-10624
Serial No.	:	10/002,513	Art Unit	:	1771
Filed	:	10/25/2001	Examiner	:	Erma C. Cameron
For	;	FIBERS AND FABRICS WITH IN AND FLAME-RESISTANT PROI	·	W	ATER-PROOFING,

DECLARATION UNDER 37 CFR §1.131

Declaration by Eddie E. Scott of Prior Invention by Lawrence W. Hrubesh, John F. Poco, and Paul R. Coronado to Overcome Cited Reference

Commissioner of Patents and Trademarks Alexandria, VA 22313-1450

Dear Sir:

- I, Eddie E. Scott, hereby declare that:
- I am a citizen of the United States and a resident of Danville, (1).California:
- (2).My education includes: Bachelor of Science Degree, University of Wyoming; Master of Science Degree, University of Texas at Dallas; Juris Doctor

Degree, University of Wyoming; Patent Office Academy, Basic and Advanced, United States Patent and Trademark Office, Washington, D. C.;

- (3). I am an active member of the State Bar of California, an inactive member of the State Bars of Texas and Wyoming, and I am registered to practice before the United States Patent and Trademark Office;
- (4). I am employed by the University of California, at the Lawrence Livermore National Laboratory, Livermore, California, as Assistant Laboratory Counsel, having been employed by the University of California, at the Lawrence Livermore National Laboratory from May 1, 1999 to the present, and I am empowered to act on behalf of The Regents of the University of California, the owner of the subject application;
- (5). I am the attorney representing the inventors Lawrence W. Hrubesh, John F. Poco, and Paul R. Coronado (The Inventors), in the subject patent application;
- (6). In the Office Action mailed August 22, 2003, claims 10-18 in the subject application were rejected over the Soane et al Reference, International Patent Application No. WO 01/06054 by Avant-Garb, LLC. Claims 1-9 in the subject application are non-elected claims that were the subject of a restriction requirement. The Soane et al Reference, International Patent Application No. WO 01/06054, was published January 25, 2001, from an application filed July 19, 2000. The filing date of the application from which the Soane et al Reference matured is July 19, 2000;
- (7). I have obtained copies of certain documents (The Documents) maintained in the ordinary course of business of the University of California, the Lawrence Livermore National Laboratory, and the United States Department of Energy (DOE) and I am one of the custodians of The Documents; copies of the documents are attached hereto as Attachments; The Documents show that The

Inventors made the invention described and claimed in the subject patent application (The Invention) in this country prior to July 19, 2000, having made written descriptions, having made tests, and having disclosed the invention to others; all of the foregoing having been done in this country prior to July 19, 2000; The Inventors continuously worked on testing, developing, and patenting The Invention during the period from the time when We made the first written description of The Invention and disclosed The Invention to others until October 25, 2001 when the subject application was filed (hereinafter "The Time Period"); The Inventors conceived and reduced The Invention to practice in this country prior to July 19, 2000;

- (8). Attached as ATTACHMENT A is photostatic copy of a "RECORD OF INVENTION" which in the Conception of the Invention Section XI, contains an entry for the "Conception Date" and an entry for "First Written Description," in the Reduction to Practice of the Invention Section XII, contains an entry for the "Date of Operation and Testing," and in Section XIV contains blanks wherein signatures and dates of signatures appear; the dates on the photostatic copy of ATTACHMENT A have been blacked out, however, dates showing that The Inventors made The Invention prior to July 19, 2000 are dates prior to July 19, 2000; that We conceived The Invention in this country are dates prior to July 19, 2000; that We reduced The Invention to practice in this country are dates prior to July 19, 2000, and dates showing that The Invention was continuously worked on during The Time Period are dates during The Time Period;
- (9). During The Time Period the Industrial Partnership and
 Commercialization Office (IPAC) of the Lawrence Livermore National
 Laboratory held monthly Invention Review Meetings and The Invention was
 reviewed at the Invention Review Meetings during The Time Period; IPAC
 continuously reviews inventions and prioritizes inventions for patent application

filing; The Invention was reviewed and prioritized by IPAC during The Time Period; a photostatic copy of a database entry showing that The Invention was reviewed by IPAC during The Time Period is attached as Attachment B, the dates on the photostatic copy have been blacked out; however, dates showing that The Inventors made The Invention prior to July 19, 2000 are dates prior to July 19, 2000, and dates showing that The Invention was continuously worked on during The Time Period are dates during The Time Period;

- (10). During The Time Period the Office of Laboratory Counsel (OLC) of the Lawrence Livermore National Laboratory, held monthly Invention Review Meetings and The Invention was reviewed at the Meetings during The Time Period; the Office of Laboratory Counsel (OLC) also held monthly meetings with the Industrial Partnership and Commercialization Office (IPAC) during The Time Period and The Invention was reviewed at the Meetings; OLC prepares patent applications for filing according to a priority list; the parent application of the subject application was prepared by OLC covering The Invention according to the priority list; a photostatic copy of a database entry showing that The Invention was reviewed and a patent application filed by OLC during The Time Period is attached as Attachment C, the dates on the photostatic copy have been blacked out; however, dates showing that The Inventors made The Invention prior to July 19, 2000 are dates prior to July 19, 2000, and dates showing that The Invention was continuously worked on during The Time Period are dates during The Time Period;
- (11). During The Time Period The Invention was continuously worked on; photostatic copies of documents maintained in the ordinary course of business of the University of California, the Lawrence Livermore National Laboratory, and the United States Department of Energy (DOE) showing that The Invention was continuously worked on during The Time Period are attached

as Attachments D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, and S; the dates on the photostatic copies have been blacked out; however, dates showing that The Inventors made The Invention prior to July 19, 2000 are dates prior to July 19, 2000, and dates showing that The Invention was continuously worked on during The Time Period are dates during The Time Period;

(12). I further declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

(Signature) <u>1/3/</u> 2003

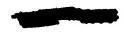
Declarant: Eddie E. Scott





ATTACHMENT A

RECORD OF INVENTION



LLNL PATENT GROUP

LLNL File No.

This invention was made in the course of or under prime Contract No. W-7405-ENG-48 between the U.S. Department of Energy and the University of California. This Record of Invention is prepared for the Office of the Assistant General Counsel for Patents, U.S. Department of Energy.

I. Title of the Invention

A method for insulating, water-proofing, and flame-proofing fibers and fabrics.

Lawrence W. Hrubesh John F. Poco Paul R. Coronado	on Title/Position Physicist Chemist Chemist	CMS CMS CMS	Payroll Acct 9808 9808 9808	3-1691 3-9976 2-0155	L-092 L-092 L-092

Any fibers and woven fabrics can be made water repellent, fire-retardent and thermally III. Abstract insulating by filling the void spaces in the fibers or fabrics with a hydrophobic, nanoporous powdered material. When the powder is sufficiently finely divided, it clings tenaciously to the fabric's fibers and to itself, resisting the tendency to be removed from the fabric. Thus, this treatment offers substantial long term improvement of the water repellant and thermal insulation properties over the untreated fabric, while not adding much additional weight to it.

IV. Uses of the Invention

List past uses, current uses and potential uses for your invention LLNL or Government uses or possibilities for use:

Military clothing, blankets, tents, raingear, fire/flame protection

Commercial or other uses or possibilities for use:

clothing, blankets, tents, raingear, fire/flame protection



LLNL File No.

Subject	Date	Publication #
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VII. Background
Background of the Invention, including technical problems addressed by it:

Fabrics are made water repellant by using fibers that are made of materials that will not be easily wet by water, or the fibers are coated with a water repellant material. The thermal insulating property of fabrics derives from the smallness of the fibers and the high ratio of void volume to solids within and between the fibers. To improve the water repellant property of a fabric, either better hydrophobic fibers or coatings are required, or the exposed surfaces of the un-treated fibers must be reduced. To improve the thermal insulating properties of a fabric, either smaller fibers are needed, or the void spaces within and between the fibers need to be made smaller. The best insulation would be achieved if the average fiber size and the average void size could be reduced below 0.1 micrometer.



Pag

LLNL File No.

VIII. Invention Description

D scription of the invention (you may also attach a paper). Please include a sketch of the invention, if possible.

It is possible to fill the available void spaces in fibers and fabrics with a nanoporous material (powdered) whose particles and pores are so small that the thermal resistance of the powder is higher than that of the air that the powder is displacing. The powdered nanoporous material can be a hydrophobic material that is not easily wet with water. Thus the composite of fabric and powder has improved insulation and water-proofing properties.

The nanoporous powder can be any porous material that exhibits a microstructure consisting of sub-micrometer pores and particles; preferably, sol-gel derived, aerogel-like materials. The powders should have a composition such that the bulk material is not easily wet by pure water; preferably, the bulk material would make a contact angle greater than 90° with a water droplet on its surface.

The powder can be applied to the fibers or to the woven fabric at any time; preferably, by pressing the dry powder into the fibers or fabric in a manner that results in effectively filling the available void spaces.

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For example, a linen fabric treated with 19% by weight of hydrophobic silica aerogel, completely shed water and its thermal resistance improved by 31% over the same thickness of un-treated fabric. The same treated fabric withstands a flame temperature of 525°F before scorching, 7 times longer than the untreated fabric.



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IX. Inventor	Informat	ion								
Inventor's Permane			lease	attac	h a separa	ate sheet for addition	onal inventors)			
Full Name			itize	nship	Street /	Address]	City, State,	Zip Code	
Lawrence W	/. Hrubesh	1 1	JS	JS 19 Grey Eagle Court Pleasanton 9456						
John F. Poc	0	\Box	JS			Creek Roa		Livermo	re. CA	94550
Paul R. Cord	onado		JS		1354	Balboa Way	/	Livermo		94550
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LLNL File No.

XIII. Invention Use and I						
Has the Invention been put into use?	Yes No	If yes, expl	ain:			
Has the Invention been disclosed to no	n-LLNL pe	ersonnel?	Yes	No	If yes, to whom and when? P	rovide name(s) and date(s):
If yes, was the disclosure done under	a non-discl	osure agreer	nent? Yes	No		
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XIV. I/We believe myself/purs	elves to	be the first	and origin	al in	ventor(s) of the above-de	escribed invention.
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Send the completed and signed form to the Patent Group at L-703



Pag 5
LLNL File No.

XIII. Invention Us											
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Send the completed and signed form to the Patent Group at L-703

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	•		ATTACHMENT B	
Sheet High 20 Date:	Inv ntors: Lawrence W. Hrubesh, John F. Poco, Paul R. Coronado Non-LLNL Inventors:	Additional comments (Specialist/Program Rep) Suggested strong interest in this invention. This is an aerogel invention and is in abeyance until 11/01. L. Hrubesh says that this invention has not been published. This invention adresses the bonding of aerogel to other materials that may be expanded to composites in general, depending on the prior art in that area. (Meike)	Selected by IPAC for Top 20 (Weis/Dunipace)	Search Completed Portfolio Portfolio Annemarie Meike
Sores	nd Fabrics	Addit sugges in abey publish that ma that are	Selecte	Search (
Patent Priority List - Scoresheet	Directorate: Chemistry g, Water-Proofing, and Flame-Proofing Fibers and Fabrics	High 20 Priority: 1 for the Top 20 nical invention Le rammatic interest	nal)	Publication Date:
Patent	d for Insulatin	(Check all that apply) High 20 Priority: X Recommended for the Top 20 Important technical invention X Commercial value Significant Programmatic interest	Proof of concept exists CRADA BIP CRADA Subject Invention License executed License in negotiation Commercial interactions/marketing Other time factors (bar date, provisio	ing date:
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Inventors	Lawrence W. Hrubesh, John F. Poco, Paul R. Coronado
IPAC PCT Req.	
Last Modified Date	
Last Person To Modify	April Masluk
Last Modified Time	11:52:08 AM
Licensee	
Miscellaneous Information	
Natl Appl. Nos.	
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ATTACHMENT D

University of California Lawrence Livermore National Laboratory Intellectual Property Law Group

Mail Station: L-703 Extension: 2-0505

Interoffice Memorandum

TO:

Bill Bollinger

FROM:

Terry Contreras

SUBJECT: New Disclosure and Record of Invention

LLNL Case No.: IL-10624

Please review the attached disclosure for classification purposes. When you have finished your review please sign the disclosure and return to me at L-703.

(end

ATTACHMENT E





Mr. William C. Daubenspeck Office of Patent Counsel Intellectual Property Law Division Livermore, California 94550

SUBJECT: Invention Case No.: IL-10624

"A Method for Insulating, Water-Proofing, and Flame-Proofing

Fibers and Fabrics "

By: Lawrence W. Hrubesh, John F. Poco, Paul R. Coronado

Dear Mr. Daubenspeck:

Enclosed are the original and one copy of the combined Disclosure and Record of Invention in the subject case.

Very truly yours,

Kjersti Sudweeks

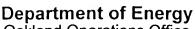
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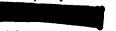
cc: Penny Hennagir w/enc
IP&C Sara Sanders L-795 w/enc
Lawrence W. Hrubesh L-092 w/enc
John F. Poco L-092 w/enc
Paul R. Coronado L-092 w/enc

ATTACHMENT F



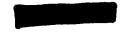


Oakland Operations Office Office of Chief Counsel Intellectual Property Law Division



Janet G. Tulk, Laboratory Counsel, L-703

Livermore Office P.O. Box 808, L-376 Livermore, CA 94550 (925) 422-4367 FAX (925) 422-8228 RECEIVED



LLNL - I. P. L. G.

Subject:

DOE Patent Docket No.: S-94,210

LLNL Docket No.: IL-10624

Title: A Method for Insulating, Water-Proofing, and Flame-Proofing Fibers and Fabrics

Inventor(s): Lawrence w. Hrubesh et al. Under DOE Contract No.: W-7405-ENG-48

The Laboratory's transmittal to this office on second of the above-identified invention disclosure is acknowledged with appreciation. The invention disclosure has been assigned the above-indicated DOE Patent Docket (S) number. Your reference to this number in future communications with this office will be helpful.

Based on the information provided to DOE in the invention disclosure, the commercial rights to this invention are readily obtainable by the Laboratory during the first two years following disclosure of the invention to DOE under the provisions of the above contract. As set forth in Article XII, Cl.1, paragraph (c)(3) of the contract, if the Laboratory wants the commercial rights to the invention, the Laboratory must elect to retain title within the two-year period. However, if public disclosure, use or sale of the invention has initiated the one year statutory period to apply for U.S. patent protection, the period for election of title is shortened by DOE to end 60 days before the end of the U.S. statutory period. Therefore, it is important for this office to be notified immediately about any public disclosure, use or sale.

In an effort to give the Laboratory as much latitude as possible to decide on commercialization of the invention, this office of DOE will hold the invention in abeyant status for a period of two years from the above date of invention disclosure. Generally during this abeyant status period, DOE takes no action on protecting the invention by the filing of a U.S. patent application. Instead DOE relies on the Laboratory to carefully evaluate the invention's potential and decide whether or not to obtain the commercial rights in the invention. If the Laboratory elects to retain title to the invention, the Laboratory must file a patent application within one year of the date of election plus any extensions granted by DOE but, in any event, before the expiration of any statutory bar period. However, during the two-year period for election, should the Laboratory decide not to retain title and inform DOE in writing, DOE will at that time evaluate whether the filing of a U.S. patent application is warranted to meet the Government's needs. If the Laboratory decides not to retain title to the invention, you are encouraged to notify DOE at your earliest convenience.

If there are any questions concerning this letter or DOE actions, please feel free to contact this office.

Randall W. C. Chang

Patent Agent

cc: Karena McKinley, LLNL, L-795 Lawrence w. Hrubesh, LLNL, L-092 John F. Poco, LLNL, L-092 Paul R. Coronado, LLNL, L-092

13

RWCC:JLR:wkc

ATTACHMENT G



Lawrence Livermore National Laboratory

Industrial Partnerships & Commercialization



Janet G. Tulk **Laboratory Counsel** LLNL, L-703

Subject:

DOE Case No. S-94210

LLNL Docket No. IL-10624

Invention Title: A Method for Insulating, Water-Proofing, and Flame-

Proofing Fibers and Fabrics

Inventors: Lawrence W. Hrubesh, John F. Poco, Paul R. Coronado

Dear Ms. Tulk:

This letter is to request that you prepare and file a U.S. patent application for the above-referenced matter on behalf of The Regents of the University of California. A waiver concerning the subject invention has been prepared and is being submitted to DOE OAK. A copy is enclosed for your file. Foreign filing is not requested at this time but will be revisited at a future date. We ask that your office track the foreign file date(s) and keep us accordingly advised.

Please proceed with this application for filing with the U.S. Patent Office in a timely manner.

Please send a copy of the patent application as filed, serial number, and filing data as they become available to Nina Rhodes and keep her advised regarding the progress of the filing.

At this time I ask that your office track the patent filing fees and prosecution costs for the subject application and keep our office informed of the expenditures required.

Sincerely,

Kathey Kaufman Karena McKinley Director, Industrial Partnerships &

Commercialization

Attachment

cc: Lawrence W. Hrubesh, L-092 Annemarie Meike, L-795



ATTACHMENT H

Lawrence Livermore National Laboratory Industrial Partnerships & Commercialization



Mr. William C. Daubenspeck Office of Patent Counsel U.S. Department of Energy Oakland Operations Office P.O. Box 808, L-376 Livermore, CA 94550

Subject:

NOTICE OF ELECTION TO RETAIN TITLE TO DEFENSE

PROGRAM INVENTION UNDER CLASS WAIVER W(C)-92-002

Dear Mr. Daubenspeck:

Pursuant to the terms of Contract W-7405-ENG-48 between the Department of Energy (DOE) and the Regents of the University of California (University), and subject to Class Waiver W(C)-92-002, we submit an Election Memorandum for the following invention:

DOE Case No. S-94210 LLNL Docket No. IL-10624

A Method for Insulating, Water-Proofing, and Flame-Proofing Fibers and Fabrics Inventors: Lawrence W. Hrubesh, John F. Poco, Paul R. Coronado

The University has reviewed the subject invention disclosure with respect to: (1) export control; (2) United States preference/competitiveness; and (3) adverse impact upon the Naval Nuclear Propulsion Program and other nuclear and/or atomic energy defense activities of the Department of Energy and agrees to comply with all statutes and regulations governing export control, U.S. preference/competitiveness, and the Naval Nuclear Propulsion Program, et al., in dealing with the subject inventions. (A copy of the Invention Disclosure including a Classification Review, and an original signed Export Control Review for Licensing and Patents form, are attached to the enclosed Election Memorandum.)

Further, the University agrees to comply with Clause 66.1.F governing technology transfer activities under Contract Number W-7405-ENG-48.

Your prompt review of this Election Memorandum will be appreciated.

Sincerely,

Kathy Kaufman Karena McKinley

Director, Industrial Partnerships

& Commercialization

cc:

Lawrence W. Hrubesh, L-092 Annemarie Meike, L-795 Janet G. Tulk, L-703

WAIVER LEGAL APPROVAL

Date:

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ATTACHMENT J

EC-2001-107



Interdepartmental Letterhead

Mail Station

L-302

Ext: 2-4406

To:

Sara Sanders, L-795

From:

William R. Fritchie

Subject:

Export Control Review for IL-10624 "A Method for Insulating, Water-Proofing

RECEIVED

LLNL-I.P.L.G.

and Flame-Proofing Fibers and Fabrics"

Review of Regulations. An export control review of the subject technology was conducted using the following applicable regulations:

Nuclear Regulatory Commission (NRC). This technology is export controlled as Sensitive Technology under the NRC Regulations (10 CFR Part 110), Yes No X [web site: http://www.access.gpo.gov/nara/cfr/waisidx_99/10cfr110_99.html] Department of Energy (DOE). This technology is export controlled as Sensitive Technology Yes No X under the DOE Regulations (10 CFR Part 810), [web site: http://www.access.gpo.gov/nara/cfr/waisidx_99/10cfr810_99.html] Department of State (DOS). This technology is export controlled under the DOS International Traffic in Arms Regulations (ITAR) (22 CFR Parts 120-130), Yes_ No X [web site: http://www.access.gpo.gov/nara/cfr/waisidx_99/22cfrv1_99.html] Department of Commerce (DOC). This technology is export controlled under the DOC Export Administration Regulations (EAR) (15 CFR Parts 730-774) Yes_X No [web site: http://www.access.gpo.gov/bxa/ear/ear_data.html]

Narrative. This technology is export controlled by the DOC EAR (15 CFR Part 774, Category 2, specifically ECCN EAR99), and requires no license for export, subject to the following caveat:

This technology may not be exported to individuals on the current Denied Persons List (15 CFR Part 764, Supplement 2) or to the presently embargoed countries (15 CFR Part 746).

Separate license requirements may apply for the export of commodities associated with this technology. For additional licensing guidance, contact Lou Hill (Traffic/Shipping) at 424-4201.

William R. Fritchie

Willian Int

Classification/Export Control Adviser

cc: Nancy Stone, L-703

University of California

Lawrence Livermore

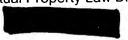
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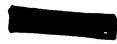
Department of Energy

Oakland Operations Office Office of Chief Counsel Intellectual Property Law Division



Livermore Office P.O. Box 808, L-376 Livermore, CA 94550 (925) 422-4367 FAX (925) 422-8228





LLNL-I.P.L.G.

Karena McKinley
Director, Industrial Partnership and Commercialization
Lawrence Livermore National Laboratory, L-001
c/o Sara Sanders, LLNL-TTIP, L-795

SUBJECT:

DOE Patent Case: S-94,210

Title: A Method for Insulating, Water-Proofing, and Flame-Proofing Fibers and

Fabrics

Docket No.: IL-10624

DOE Contract No: W-7405-ENG-48 Waiver No.: W(C)-92-002-803

Your transmittal to this office of the subject class waiver is acknowledged with appreciation.

The class waiver has been assigned the W(C) number identified above. Your reference to this number in future communications with this office will be helpful.

Very truly yours,

Kanet L. Rego

Legal Instruments Examiner

Copy to: Janet G. Tulk, LLNL, L-703

JLR:wkc

ATTACHMENT L



Department of Energy

Oakland Operations Office
Office of Chief Counsel
Intellectual Property Law Division

Livermore Office P.O. Box 808, L-376 Livermore, CA 94550 (925) 422-4367 FAX (925) 422-8228

Karena D. McKinley Director, Industrial Partnership and Commercialization Lawrence Livermore National Laboratory, L-795 c/o Sara Sanders, LLNL-TTIP, L-795

Re: Approval of Election by LLNL under DOE Waiver W(C) 92-002-802

DOE Inven. Case No.: S-94,210 LLNL Inven. Docket No.: IL-10624 Inventor(s): Lawrence W. Hrubesh et al.

Invention Title: A Method for Insulating, Water-Proofing, and Flame-Proofing Fibers

and Fabrics

Dear Ms. McKinley:

Please have the LLNL Patent Group forward to this office a copy of each patent application filed on the referenced invention and a copy of any issued patents thereon.

Furthermore, have LLNL's Industrial Partnerships and Commercialization Program periodically provide this office with information demonstrating LLNL's commercialization efforts for the subject invention as required by Contract No. W-7405-ENG-48.

Respectfully,

William C. Daubonspeck

Patent Attorney

Enclosure

Copy to: Michael A. Wahlig, DOE-OAK, L-293 (w/o encl)

Janet G. Tulk, LLNL, L-703

Lawrence W. Hrubesh, LLNL, L-092 (w/o encl)

John F. Poco, LLNL, L-092 (w/o encl)
Paul R. Coronado, LLNL, L-092 (w/o encl)

WCD:wkc

ATTACHMENT M

CONTAINS PROPRIETARY INFORMATION

ELECTION MEMORANDUM

DATE:

SUBJECT: Notice of Election to Retain Title to the Following Defense Program

Subject Invention Under Class Waiver W(C)-92-002

FROM: LLNL Industrial Partnerships & Commercialization, L-795

Nina Rhodes/Sara Sanders, Administrators, (925) 422-6416

TO: Assistant Chief Counsel for Patents, DOE/OAK

DOE NO: S-94,210

DATE REPORTED TO DOE:

FIRST NAMED INVENTOR: Lawrence W. Hrubesh

INVENTION TITLE: A Method for Insulating, Water-Proofing, and

Flame-Proofing Fibers and Fabrics

B&R NUMBER: N/A

DOE PROGRAM OFFICIAL: N/A

A copy of the Subject Invention Disclosure is attached hereto.

The Regents of the University of California (UC) hereby elects to retain title to the Subject Invention, under the terms and conditions of the Statement of Consideration of Class Waiver W(C)-92-002, in the United States and such foreign countries as may be determined. We will advise DOE of any foreign filing decisions and actions taken by the University.

UC hereby represents that it has conducted a reasonable internal inquiry, and as a result, it has determined that the Subject Invention falls within the Class Waiver. UC has further determined that the Subject Invention does not fall within international agreements or treaties of the U.S. Government.

UC further represents that it will attempt to commercialize the Subject Invention through its licensees within five (5) years from the time this election is effective.

agrees to file, prosecute, and maintain those patent applications and issued patents on the Subject Invention which are necessary to effectively fulfill its obligations under the subject Class Waiver and its Technology Transfer Agreement entered into with the Department of Energy (DOE) on January 23, 1991, under Contract No. 13, 7405-ENG-48.

UC has provided for the following safeguards for the protection of national security while commercializing the Subject Invention:

UC further represents that it has determined that the technology has been reviewed for export control. See the attached Export Control Review for Patents and Licensing form attached hereto and incorporated herein as if fully set forth. UC further represents that it will inform all licensees of any requirements or limitations on export of the technology.

In making its determination that the Subject Invention falls within the subject Class Waiver, UC has concluded, through its Program and Technology Transfer Offices, that national security will not be compromised by the development, commercialization or licensing activities involving the invention; that no sensitive technical information (classified or unclassified) under any of DOE's programs will be released to unauthorized persons; that the dissemination of the technology will not contribute to the proliferation of nuclear weapons; and that there will be no adverse effect on the operation of the Naval Nuclear Propulsion Program or the Nuclear Weapons Program or other defense activities of DOE by UC taking title

UC understands that an election of Defense Programs funded inventions is not effective until approval by the DOE Assistant Chief Counsel for Intellectual Property and concurrence by the Defense Programs Field Review Official is obtained.

CONCURRENCE:

Defense Programs

2 -----

APPROVAL:

Date:

William C. Dauberspeck

for Asst. Chief Counsel for Patents, OAK

Effective Date:

DOE S# 94210; IL# 10624

. University o alifornia Lawrence Livermore National Laboratory

ATTACHMENT N

IN STRICT CONFIDENCE

ATTORNEY WORK PRODUCT

CLASSIFICATION REVIEW TRANSMITTAL

To:

Bill Fritchie

Classification Office

L-302

From:

Kathy Raymond

Patent Group

L-703

Subject:

Patent Application: Classification Review Requested Yes No

Export Control Review Requested Yes No

Most Recent Export Control Review on file dated

For:

S-94,210

IL-10624

"FIBERS AND FABRICS WITH INSULATING, WATER-PROOFING, AND FLAME-RESISTANT PROPERTIES"

Date

Transmitted:

COMMENTS:

Bill,

Please review and return.

Thank you.

ATTACHMENT O

Classification Review of Patent Application

Docket Number: IL-10624

Unclassified Title: (U) FIBERS AND FABRICS WITH INSULATING, WATER-PROOFING, AND FLAME-RESISTANT PROPERTIES

Inventors: Lawrence W. Hrubesh, John F. Poco, Paul R. Coronado

Author	rized Derivative Classifier Determination					
× o	Unclassified Unclassified, but Controlled UCNI Other:					
a	UCNI Reviewing Official Determination is	required				
□ Specify	Classified - Level and Category Specify Authority (Guide/Topics):					
1	Review/Declassify on (Date or Event): onal markings Required:	Weapon Other:	Data - Sigma(s):			
	ADC Name: LAWRENCE RUBESH ADC Title: PHYSICIST ADC Signature: Date:					
UCNI	Reviewing Official Determination (If reque	ested)				
0	The application does <i>not</i> contain UCNI. The application <i>may</i> contain UCNI.					
a	The application does contain UCNI.					
Review	ring Official Signature:		Date ·			
Classif	ication Office Confirming Review					
×	The ADC's determination is correct.					
The sec	The inventor's determination is correct.					
	rrect classification is: ring Official Signature:	Alex	Date			

William R. Fritchle
Classification/Export Control Adviser

University of California Lawrence Livermore National Laboratory

ATTACHMENT P

University of California
Lawrence Livermore National Laboratory
Intellectual Property Law Group



Mail Station: L-703

Extension: 3-9034

Interoffice Memorandum

TO:

Janet Rego

L-376

Nina Rhodes

L-795

FROM:

Kathy Raymond

SUBJECT: IL-10624

1 04 040

S-94,210

Enclosed for your records is a copy of the Patent Application, Recordation Cover Sheet with Assignment, and return postcard.

If you have any questions, please do not hesitate to call.

Kathy Raymond

Intellectual Property Law Group

Enclosures: as noted

ATTACHMENT Q

University of California
Lawrence Livermore National Laboratory
Intellectual Property Law Group



Mail Station: L-703

Extension: 3-9034

Interoffice Memorandum

TO:

Nancy Stone

FROM:

Kathy Raymond

SUBJECT: USE OF PATENT GROUP DEPOSIT ACCOUNT (12-0695)

As of this date, I have charged the following amount(s) to the Patent Group deposit account:

Amount	IL Number	<u>Attorney</u>	Type of Action
\$40.00	IL-10624	EES	Fee for Filing New Application
\$ <u>538.00</u>			New Application Transmittal (Small Entity)
\$578.00 Total			(Ollian Elitity)

ATTACHMENT R

University of California Lawrence Livermore National Laboratory Intellectual Property Law Group



IN STRICT CONFIDENCE ATTORNEY WORK PRODUCT

Mail Station: L-703

Extension: 3-9034

Interoffice Memorandum

TO:

Lawrence W. Hrubesh, L-592

FROM:

Kathy Raymond

SUBJECT: IL-10624

"FIBERS AND FABRICS WITH INSULATING, WATER-PROOFING, AND

FLAME-RESISTANT PROPERTIES"

Enclosed is a copy of your patent application which you recently executed. The information in the patent application may be of a confidential nature and you are advised not to release any of the information contained therein without prior approval from this office, unless it is already available to the public. The Patent and Trademark Office does not allow public access to pending applications.

Your cooperation in this matter is greatly appreciated.

Sincerely,

Kathy Raymond

Intellectual Property Law Group

Enclosure:

Patent Application

cc: John F. Poco, L-092 Paul Coronado, L-092

CONFIRMATORY LICENSE

Title: Fibers and Fabrics With Insulating, Water-

Proofing, and Flame-Resistant Properties Inventor(s): Lawrence W. Hrubesh, et al

Contract Number: W-7405-ENG-48

Contractor: Regents of the University of California

Lawrence Livermore National Laboratory

DOE Docket No.: S-94,210 Docket No.: IL-10624

U.S. Patent Application S.N.: 10/002513

Filing Date:

Waiver No.: W(C) 92-002

Foreign patent applications filed or intended to be filed at contractor's expense in (countries):

The Contractor certifies that a true copy of the provisions which govern patent rights in "subject inventions" under the above-identified contract is herewith submitted or has been submitted to the U.S. Department of Energy by certification dated

WHEREAS, the above-identified invention is a subject invention under the above-identified contract;

WHEREAS, the above-identified Class Waiver of Government rights in certain identified inventions and the above-identified contract provides the Contractor with the right to elect to retain title in certain subject inventions and the Contractor has elected to retain title in the above-identified subject invention, EXCEPT FOR a paid-up license under the above-identified contract and the above-identified waiver.

ACCORDINGLY, the Contractor hereby confirms that under the provisions of the above-identified contract governing patent rights, it has granted to the Government a nonexclusive, nontransferable, irrevocable, paid-up license to practice or have practiced for or on behalf of the United States the subject invention throughout the world. This license applies to the above-identified invention, the above-identified patent application(s), and any and all divisions or continuations thereof and any resulting patent or reissue patent which may be granted thereon.

The Government reserves for itself, and is hereby granted by the Contractor, the irrevocable power to inspect and make copies of the file wrapper(s) of the above-identified U.S. patent application and of any related or continuation patent application(s), whether domestic or foreign, for the above-identified invention.

It is understood and agreed that this instrument does not preclude the Government from asserting rights under the provisions of the above-identified contract or any other agreement between the Government and the Contractor, or any other rights of the Government with respect to the above-identified invention.

Signed on behalf of: THE REGENTS OF THE	E UNIVERSITY OF CALIFORNIA
Signed on behalf of Contra	
Witness: By	Must Thy
(Signature)	(Contractor Official's Signature) (Date)
Wendy R. Pebler, Paralegal	Alan H. Thompson, Deputy Laboratory
(Name and Title)	(Print/Type Contractor Official's Name and Title)
	Counsel for Intellectual Property
	Lawrence Livermore National Laboratory
	(Print/Type Contractor's Address)
	P. O. Box 808, L-701
	Livermore, CA 94551-0808